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AUTHOR Inger, Morton
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ABSTRACT

An initial analysis of self-reported, formal, postschool job training and the labor market outcomes of that training in Great Britain, Australia, and the United States was made through a study of survey results in each of the countries. The data revealed that there is not one kind of training, but various kinds for different purposes, with important differences among training sources, their determinants, and their consequences for wages and employment. The data also showed different patterns of skill acquisition over the early work career, varying by education, demographic group, and apprenticeship status in each country, as well as across countries. Some specific findings are the following: (1) in all three countries, the level of schooling attained by a worker is an important predictor of postschool training and labor market success, better-educated workers are more likely to receive employer-provided training, and employer-provided training has the greatest effect on raising wages and reducing unemployment; (2) in the United States, workers receive low initial levels of training but accumulate more training with time on the job, whereas in Great Britain and Australia, training is concentrated in the early work years; (3) in the United States, most training is provided by employers, whereas in the other two countries, it is mostly provided by schools and other off-the-job sources; (4) in the United States, training yields higher returns, in terms of wages, than in the other countries; and (5) poorer youths in all three countries receive less training. (KC)

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Youth Training in the U.S., Great Britain, and Australia

Morton Inger

The imperatives of rapid technological change, rising international competition, and changing demographics have raised concerns about skill investments in American workers and have galvanized U.S. policymakers to address what has come to be called "America's workforce crisis."

Similar policy concerns are voiced in Great Britain and Australia. In Great Britain, debate focuses on the alleged inadequacies of the vocational education and training systems, and on whether craft-based unions inhibit training. In Australia, concerns focus on a centralized mechanism in which 85 percent of workers are covered by minimum wage awards, and on craft-based unions, which allegedly inhibit training incentives with restrictive work practices and narrowly defined tasks.

Much of the debate in these three countries has been limited by the paucity of reliable information on many issues. Now, however, the release of surveys with training information in the U.S., Great Britain, and Australia has yielded sufficient data to permit initial cross-national analyses of self-reported, formal, postschool job training and the labor market outcomes of that training.

RAND Corporation researchers Hong Tan and Christine Peterson and their research collaborators, Bruce Chapman and Alison Booth, have compared postschool training experiences in the three countries, using the National Longitudinal Survey of Young Men (NLS) for the U.S., the National Child Development Study (NCDS4) for Great Britain, and the Australian Longitudinal Study (ALS) for Australia.

Despite some limitations, all three surveys yielded information on educational attainment, wages, work and unemployment histories, training received from employers as well as off-the-job, and training incidence in the early years of their work career. Although there are differences across surveys -- for example, the U.S. study surveyed only males; the British and Australian surveys included females as well as males -- the training data are broadly comparable.

The unique characteristics of the data revealed that there is not one kind of training, but various kinds for different purposes, with important differences among training sources, their determinants, and their consequences for wages and employment. By permitting the researchers to build training histories for each individual, the data revealed different patterns of skill acquisition over the early work career, varying by education, demographic group, and apprenticeship status in each country, as well as across countries.

The analyses summarized here were restricted to formal training courses and excluded informal training or learning on the job. Further, the data refer to training episodes, with no controls for duration or intensity of the training. In this Brief, the terms "company training" or "on-the-job training" refer to formal training courses conducted on the company premises, usually in company training centers. "Off-the-job" training refers to a variety of formal training courses not offered by the employer and not on company premises.

The arguments and data for this Brief are drawn from a longer paper entitled, *Youth Training in the U.S., Great Britain, and Australia*, by Hong Tan, Bruce Chapman, Christine Peterson, and Alison Booth (Santa Monica: The RAND Corporation, 1991).

Incidence of Youth Training

Young American men get relatively little formal training upon entry into the labor market. As they acquire work experience and find a good job-match, a high and rising proportion report receiving training.

In contrast, a high proportion of youth in Great Britain and Australia -- especially those enrolled in apprenticeship programs -- receive formal training in the early work career, but this figure grows slowly in subsequent years. The postschool training patterns of non-apprentice groups are more like those of American youth, but even among non-apprenticed workers, there appears to be greater emphasis on early training in Great Britain and Australia than in the U.S. Compared to the U.S., formal training is more likely to be from outside sources than on the job.

The percentage of American youth who report receiving training on entry into the labor market is lower than in Great Britain and Australia for three main reasons. First, in Great Britain and Australia, apprenticeship programs are widely available, and 20 to 35 percent of the youth are enrolled in these programs. In the U.S., less than one percent of workers are in apprenticeship programs. Second, the U.S. has no public scheme of training and job placement targeted at unemployed youth comparable to Great Britain's Training Opportunities Program and Youth Training Scheme. Third, American youth, more often than their counterparts in the other two countries, get some initial training in public and private educational institutions such as junior and community colleges.

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Determinants of Postschool Training

Educational Attainment. In all three countries, the probability of receiving postschool training increases with the amount of education completed by an individual before entering the labor market. This correlation suggests that the broad, general skills fostered in formal schooling are valued by employers and complement the job-specific skills that are fostered in postschool training. The correlation also reflects the reality that the more able and the wealthier are likely to get more education.

Technology. The effects of technology on training are strikingly similar in the U.S. and Great Britain. As the industry rate of technical change rises, the probability of workers receiving postschool training from company sources rises with their level of schooling attainment. In high-tech jobs, employers rely more on company training and place less reliance on traditional schools and business or technical institutions for work-related training. The reliance on company training in industries experiencing rapid technological change is most likely because skills specific to new technologies are not readily available outside the firm and must be developed internally. Public and private educational institutions and vocational and technical schools become important suppliers of training only when new technologies become routinized and widely adopted and the skills needed to operate them well-understood.

In Australia, the impact of technological change on training is less apparent, possibly because binding minimum wage laws and the restrictive work rules of the craft-based unions inhibit the ability of employers to provide differential amounts of training in response to the skill requirements of technological change.

The strong link between schooling attainment, technical change, and postschool training, found in the U.S. and Great Britain and, to a lesser extent in Australia, does not bode well for youth entering the labor market with low levels of formal education. Such individuals face not only limited training opportunities but also slower wage growth prospects. Rapid technological change actually penalizes the least educated group because they receive less formal training at work than their counterparts in jobs with relatively stable technologies.

Job Tenure and Work Experience. Training from schools and from business and technical institutes falls off with time in the current job. Company training, on the other hand, rises with tenure. As individuals advance in their work careers, job-specific training replaces training in broad-based general skills by academic and vocational-education institutions.

The effects of job tenure on training in the U.S. differ significantly from the effects in Great Britain and Australia. Most youths in Great Britain and Australia receive their training early in their work careers, probably in their first one or two jobs, and receive less additional training in subsequent years. In the U.S., young men continue to accumulate training from all sources with increased work experience in the labor market.

Union Membership. In all three countries, union members are more likely than non-union workers to get both company-based and school-based training. In light of these cross-national results, the commonly held view that unions inhibit job training needs to be reexamined.

Impact of Training on Wages

Wage Effect and Duration. In all three countries, training increases wages, but wage effects from training in the U.S. are substantially larger than in Great Britain and Australia. In the U.S., each training event raises subsequent wages by an average of 12 percent. In Australia, the increase is about 8 percent; in Great Britain, it is 7 percent. Further, although wage-training effects diminish over time, they persist longer in the U.S. The wage-training effects in the U.S. persist, on average, for about 12 years. In Australia, by contrast, within three years, well over half of the wage effect disappears, and the wage effect is virtually reduced to zero by the end of the fourth year. (Duration measures are not available for Great Britain.)

Training Source. In all three countries, by far the greatest effect on weekly wages comes from company training, followed by off-the-job training.

In the U.S., company training increases the wages of young men by over 18 percent annually. Off-the-job training varies in wage effect, depending on the source. Business-technical school training increases wages by about 12 percent, and miscellaneous other sources of training by about 10 percent. Postschool training courses taken in the traditional educational sector have no apparent impact on wages, although formal schooling attainment yields substantial positive effects.

In Great Britain, formal training by the company has considerably less effect on wages than in the U.S., but compared to other training sources in Great Britain, it has the largest impact on wage growth (7 percent), followed by off-the-job training (4 percent). For women, formal training courses at work are the only training source to have a statistically significant impact on wages.

In Australia, current weekly wages

are increased by between 7 and 9 percent if on-the-job training occurred within the past year. Off-the-job training produces no measurable effect for any of the Australian samples. An apparent exception is apprentice males: Training that they receive four years earlier from outside sources raises their wages by about 8 percent. But apprentices automatically receive a legally mandated pay raise upon completion of the apprenticeship program.

Training from Current and Past Employers. In the U.S. and Australia, company training provided by employers in previous jobs is portable to the next job. (The data from Great Britain is insufficient to permit the researchers to draw any conclusions on this point.)

In the U.S., the wage increase associated with company training in the current job is about 22 percent, compared to a 17 percent wage effect for company training from previous jobs. Since some of the wage effect from previous jobs has probably depreciated over time, apparently only a small portion of the company-based training received by young men in the U.S. is firm-specific and therefore lost with job mobility.

In Australia, for females and for non-apprenticed males, on-the-job training is largely transferable to other jobs. The differences between wage gains from training from current and former employers are not large. For non-apprenticed males, on-the-job training from the current employer is associated with about an 8 percent increase in weekly wages, compared to 4 to 6 percent for on-the-job training from previous jobs. For females, the wage benefits from on-the-job training are similar across employers -- nearly 7 percent for training from the current employer and nearly 8 percent for training from previous employers.

The situation is quite different for apprenticed males. On-the-job training from the current job is associated with an increase in wages of about 10 percent; training from all other sources, whether from the current or past employers, has no measurable effect on wages.

Training and the Probability of Unemployment

U.S. For the most part, training reduces the likelihood of unemployment. Company training in particular significantly lowers the probability of future unemployment. Although this effect lessens over time, the benefits of company training persist for over ten years.

Great Britain. The likelihood of a spell of unemployment is significantly reduced if a worker received any kind of training over the previous year. The total number of training events received to date also inhibits unemployment. Unlike the U.S., there is no clear ranking of the different training sources in terms of their effects on inhibiting unemployment.

Australia. Formal training provided by the employer and off-the-job training are equally effective in reducing the likelihood of unemployment. This training effect is large and statistically significant if training took place over the previous 12 months, but tapers off with the passage of time.

Discussion

In all three countries:

- The level of schooling attained by a worker before entering the labor market is an important predictor of postschool training *and* labor market success.

- In technologically changing industries, better-educated workers are the ones most likely to receive formal, employer-provided training.

- Employer-provided training has the greatest impact on raising wages and reducing unemployment.

However, there are significant cross-national differences:

- In the U.S., workers receive low initial levels of training but accumulate training at a rapid pace with time in the labor market and with tenure in the same firm; in Great Britain and Australia, training is concentrated in the early work career.

- In the U.S., with time in the labor market, most training received by employees is provided by employers; in Great Britain and Australia, it is provided most often by schools and other off-the-job sources, rather than in company training centers.

- In the U.S., training yields higher returns, in terms of wages, than in either Great Britain or Australia.

How can the cross-national differences in patterns of training be explained? The research team believes that they are shaped by key differences in labor market institutions that generate differences in employer and worker incentives. In Great Britain and Australia, these factors have combined to produce (1) strong incentives for employers to provide formal accredited training and for workers to seek early acquisition of training to *qualify for jobs*; (2) weak incentives for either employers or workers to invest in any form of job training other than officially accredited courses. In the U.S., the incentives are skewed in the opposite direction: towards more and more training with tenure on the job *to adapt to changes* in technology. The key factors are:

- An extensive system of

National Center on Education and Employment
Box 174, Teachers College, Columbia University
New York, New York 10027
212-678-3091
Director: Sue E. Berryman

apprenticeships is available to large numbers of workers in Australia and Great Britain, but is virtually nonexistent in the U.S.

•Many American workers attend community and junior colleges as an intermediate step prior to entering the workforce; their counterparts in Great Britain and Australia go straight into the labor market.

•Union coverage is relatively low in the U.S. -- less than 20 percent of U.S. workers are unionized, compared to 40 to 55 percent in Great Britain and Australia -- and the British and Australian unions tend to be organized along craft or occupational lines, with a tendency for demarcation disputes and job rules with narrowly defined tasks.

•In Australia, many of these rules and job demarcations have been reinforced by a centralized system of occupation-specific minimum-award wages, covering over 80 percent of all wage and salary earners.

•Australia and Great Britain have developed widespread formal accreditation boards to certify skill competencies in various trades and occupations.

In terms of efficiency, it appears that employer-provided training in the U.S. is relatively more responsive to the pace of technological change in industry than in Great Britain and Australia. In the latter two countries, with a concentration on training as a way of qualifying workers, workers' skills are being upgraded at a slower pace than in the U.S.

In terms of equity, the results point to adverse effects on the least educated youth in all three countries. Not only do less-educated youth receive less formal postschool training, but they are even less likely to receive formal training in industries experiencing rapid technological change. Since training increases wages and reduces the probability of unemployment, the relative status of less-educated youth continues to worsen. The data from this study reinforce the need for preventive policies to reduce high school dropout rates and improve student academic achievement.

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